Application No. 09/845,216
Response to 05/27/2005 Final Action

Attorney's Docket No. 0119-060

Listing of Claims

This Listing of Claims would replace all prior listings of claims in this application.

- 1 15. (canceled)
- 16. (currently amended) A matched filter for obtaining a correlation between a signal received through a multipath transmission line and a spreading code sequence, comprising:

N partial filters, each partial filter having a predetermined number m of taps, that are serially connected;

first adder means for adding outputs of enabled partial filters from among the N partial filters;

control means for dividing, based on a time width of effective paths included in the received signal, the spreading code sequence into subsequences, each subsequence having m*n chips, activating n partial filters from among the \underline{N} partial filters, wherein n satisfies $n*m*Ts \ge Td > (n-1)*m*Ts$, where Ts represents a sampling period of the received signal and Td represents a maximum delay time of the multipath signal, and detecting a partial correlation for each subsequence with the received signal by supplying the subsequences, in turn, to the n activated partial filters; and

second adder means for adding the partial correlations integrating outputs of the first adder means;

wherein N, m, and n are integers; $m \ge 2$; and $N \ge n \ge 1$.

- 17. (previously presented) The matched filter of claim 16, wherein the effective paths included in the received signal are determined based upon reliability information such as signal-to-noise ratio and signal-to-interference ratio of the received signal.
- 18. (previously presented) The matched filter of claim 16, wherein one of the effective paths is a path which is used to determine symbol timing of the received signal.
- 19. (previously presented) A receiver for a mobile radio communication system that uses a matched filter according to claim 16.
- 20. (previously presented) An arithmetic unit that operates as a matched filter according to claim 16.

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21. (currently amended) A method for obtaining a correlation between a signal received through a multipath transmission line and a spreading code sequence, comprising:

adding outputs of enabled partial filters from among N partial filters being serially connected, each partial filter having a predetermined number m of taps;

dividing, by a control means, the spreading code sequence into subsequences, each subsequence having m*n chips, based on a time width of effective paths included in the received signal;

activating n partial filters from among the N partial filters, where n satisfies n*m*Ts ≥ Td > (n-1)*m*Ts, where Ts represents a sampling period of the received signal and Td represents a maximum delay time of the multipath signal;

detecting supplying respective subsequences to enabled partial filters which form respective partial correlations for each of the subsequences with the received signal; and

adding the partial correlations integrating added outputs of enabled partial filters; wherein N, m, and n are integers; $m \ge 2$; and $N \ge n \ge 1$.

- 22. (previously presented) The method of claim 21, wherein the effective paths included in the received signal are determined based upon reliability information such as signal-to-noise ratio and signal-to-interference ratio of the received signal.
- 23. (previously presented) The method of claim 21, wherein one of the effective paths is a path which is used to determine symbol timing of the received signal.